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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/903,680

07/13/2001

Toshihiko Nishida

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03/22/2004

FITCH EVEN TABIN AND FLANNERY

120 SOUTH LA SALLE STREET

SUITE 1600

CHICAGO, IL 60603-3406

EXAMINER

YAO, SAMCHUAN CUA

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,680

Applicant(s)

NISHIDA ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 2, 4, 5 and 7-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 6, 17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I (claims 1,3,6, and 17-18) on 02-24-04 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Note: a telephone call was made to Mr. Coulton to inform counsel that, the response to a restriction requirement dated 01-08-04 does not positively identify an elected group for examination. Mr. Coulton elected Group I (claims 1, 3, 6 and 17-18) over the phone.

As for Counsel's request to extend the patent term, it should be noted that, several telephone calls were made to counsel so that counsel can orally elect between Groups I-II. Counsel fails to elect over the phone.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 3 and 6 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hayashikoshi et al (US 5,225,140).

With respect to claims 1 and 3, Hayashioshi et al discloses a prior art apparatus for making a fiber-reinforced thermoplastic sheet, the apparatus comprising a double-belt press system (7) having drive rolls driven by a motor (8), follower rolls, and resin heating means, wherein the resin heating means (4) comprises a pair of heat-pressing rolls (3) which are *"arranged so as to nip"* plies of thermoplastic resins (a) and reinforcing fiber mats (b) (col. 1 line 40 to col. 3 line 34; figures 14-15).

It is acknowledge that, the prior art apparatus disclosed by Hayashioshi et al does not teach using the apparatus for curing *"a long uncured fiber sheet"*.

However, since the prior art apparatus is used to melt a high melting thermoplastic PET, and since the curing temperature of *"a long uncured fiber sheet"* clearly depends on a type of thermosetting resin, it is taken that, the prior art apparatus is capable of manufacturing a resin-impregnated cured sheet.

With respect to claim 6, as illustrated in figures 14-15, the resin heating means includes a series of heat-pressing rolls. The recited pre-heating section is taken to read on the first two pairs of heat-pressing rolls. **Alternatively**, the recited pre-heating means reads on pre-heating means (15A) shown in figure 1.

5. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eggers et al in view of Duncan et al (US 4,812,366) and Tajiri et al (US 5,648,027).

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Eggers et al discloses an apparatus for making a metal laminated base, the apparatus comprises a double-belt press system (A) having two pairs of rolls, one of the two pairs being driven rolls (14,15), and heating means (23) in a heating zone, the double-belt system are "*arranged so as to nip*" plies of thermosetting resin impregnated base webs and plies of metallic foils; and, winding means for storing a resultant metal laminated base (col. 4 line 6 to col. 5 line 39; figure).

Eggers et al does not teach using heated pair of rollers for heat-pressing plies of resin impregnated webs and plies of metal foils. It would have been obvious in the art use heated rolls in a heating zone of a double-belt press system, because a) it is a common practice in the art to heat-press resin-impregnated substrate by interchangeably using heated platens and heated rotaries to cure the resin-impregnated substrate as exemplified in the teachings of Duncan et al (col. 5 lines 31-52); and, b) it is a common practice in the art to heat-press thermosetting resin impregnated webs using a double-belt press system having a series of heated pairs of rolls as exemplified in the teachings of Tajiri et al (figure 1A).

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph, as applied to claim 1 in numbered paragraph 5 above, and further in view of Schwarz et al (US 4,670,080).

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Since Schwarz et al, drawn to a process of making a metal laminated base, teaches the desirability of providing a preheated to a double belt-press system (col. 4 lines 11-27; figure), this claim would have been obvious in the art.

7. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph, as applied to claim 1 in numbered paragraph 5 above, and further in view of Schwarz et al (US 4,670,080) and in view of either (Stocker (US 2,269,884), Rautakorpi (US 6,536,704) or Crabtree (US 2,461,109)).

It would have been obvious in the art to provide an edge-trimming device as such is conventional in the art as exemplified in the teachings of Schwarz et al as such is conventional in the art as exemplified in the teachings of Schwarz et al (col. 4 lines 66-68) in order to remove unwanted excess or irregularity around side edges of a resultant metal laminated base. Moreover, it would have been obvious in the art to use a reroll unit which includes a pressing roll for retaining a winding pressure as such is notoriously well known in the art as exemplified in the teachings of Stocker (figure 1), Rautakorpi (figure 1) or Crabtree (figure 1).

8. Claims 1, 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sjolín et al (US 6,375,777) using a PCT Pub Date of 03-1999 in view of Hayashikoshi et al (US 5,225,140) and Tajiri et al (US 5,648,027).

Sjolín et al discloses an apparatus for making a thermoset laminate, the apparatus comprises a heated double-belt press system (100) having two pairs of rolls, the double-belt system are "*arranged so as to nip*" plies of thermosetting

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resin impregnated papers and a winding roll for storing a resultant thermoset laminate (col. 5 lines 7-61; figure 1). Although not explicitly disclosed, one of the two pairs of rolls taught by Sjolín et al is expected to be driven. Otherwise, how would the pair of continuous belts on the double-belt press system rotate? In any event, such would have been obvious in the art as such is conventional in the art as exemplified in the teachings of Hayashikoshi (col. 2 lines 47-53; figures 14-15).

Sjolín et al is silent on how the plies of thermosetting resin impregnated papers are heated in the double-belt press system. However, it would have been obvious in the art to use a pair of heated rolls as such is conventional in the art as exemplified in the teachings of either Hayashikoshi (figures 14-15) or Tajiri et al (abstract; col. 9 line 56 to col. 10 line 67; figure 1A).

With respect to claim 6, the recited pre-heating section is taken to read on the first two pairs of heat-pressing rolls taught by Hayashikoshi or the first three pairs of heat-pressing rolls taught by Tajiri et al.

9. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references set forth in numbered paragraph, as applied to claim 1 in numbered paragraph 8 above, and further in view of Verboom (US 3,871,290) and in view of either (Stocker (US 2,269,884), Rautakorpi (US 6,536,704) or Crabtree (US 2,461,109)).

It would have been obvious in the art to provide a pair of slitting means for trimming side edges of a laminated web before the web is reeled into a winding unit, because it is conventional in the art to provide a pair of slitting means for

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trimming side edges of a web in order to remove unwanted excess or irregularity around side edges of the web before the web is reeled into a roll-up shaft as exemplified in the teachings of Verboom (figures 1-3). Moreover, it would have been obvious in the art to use a reroll unit which includes a pressing roll for retaining a winding pressure as such is notoriously well known in the art as exemplified in the teachings of Stocker (figure 1), Rautakorpi (figure 1) or Crabtree (figure 1).

Response to Arguments

10. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Okajima et al (US 4,794,855) is cited as a reference of interest showing a double belt-press system having a pressure heating fluid device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (571) 272-1224. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

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03-12-04